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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/789,861

Filing Date: February 27, 2004

Appellant(s): CAMPOS ET AL.

Douglas A. Scholer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 3, 2008 appealing from the Office action mailed May 21, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claim 12 as being anticipated by Mills under 35 U.S.C. 102(b) has been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

1,558,351	GUASCO	9-1924
4,930,785	MILLS	6-1990
5,702,323	POULTON	12-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 8-10 and 12-14 rejected under 35 U.S.C. 102(b) as being anticipated by Guasco (Pat. No. 1,558,351).

Performance of the Guasco method inherently develops strength in a muscle since muscle is being activated in the writing process. As disclosed and claimed, the applicant considers a writing instrument to constitute an acceptable movable instrument for developing muscle strength.

Claims 8, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mills (Pat. No. 4,930,785).

The examiner considers the vibration means (motor, eccentric weight, etc.) of Mills to constitute a stimulator. While the intended use of developing muscle strength

was considered, such functional limitations fail to saliently distinguish over the golf club apparatus of Mills which is also capable of developing muscle strength.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poulton (Pat. No. 5,702,323).

Poulton discloses a method of developing strength in a muscle including applying electrostimulation to muscles in order to enhance exercise. Poulton discloses that many different exercises and tactile actuators for creating sensations and forces may be incorporated into the method, including arm wrestling (note col. 11, lines 6-31) which involves gripping an opponent's hand (or machine "hand" or "arm" as recited by Poulton). In such a system, it would have been considered blatantly obvious to include an electrode on the arm element gripped by the exerciser in order to enable electrostimulation of the user's hand to emulate the actual sensations of an arm wrestling event (see for example the text abridging cols. 13 and 14), as well as feedback of patient generated forces to the machine in order to control operation, since clearly the hand would be an important location for simulating the forces associated with an arm wrestling activity.

Regarding the specific applications discussed in claims 2-5, Poulton clearly intends his invention to apply to a wide variety of exercises and activities including virtual baseball (col. 5, lines 27-30). The extension of the invention to other forms of sports or entertainment activities such as golf, tennis and hockey would have been considered obvious since these are typical activities engaged in by individuals and clearly within the realm of the Poulton invention which covers sports in general. To provide an electrode on the grip of a golf club, tennis racquet, baseball bat, hockey stick, etc., in order to emulate the forces experienced by a participant when striking a ball or puck via electromuscular stimulation such as discussed by Poulton, would have been considered obvious to those desiring to provide the user with a realistic experience.

(10) Response to Argument

Regarding the rejection of claims 1, 6, 8-10 and 12-14 under 35 U.S.C. 102(b) as being anticipated by Guasco, the appellant argues that Guasco does not teach a signal configured to *build muscle*. It is argued that the signal of Guasco merely applies its signal to relax the muscle, but not to build muscle. It is further argued that Guasco teaches away from any combination of references that would develop or stress muscles.

The examiner firstly responds that no where in claim 1 is there a recitation limiting the method to *building* or *stressing* muscle. The claim merely requires that a signal be applied while the user moves the instrument and *develops* the muscle while the instrument is in motion. Those of ordinary skill in the art would have reasonably

considered the term “developing muscle” to include exercises for toning and relaxing the muscle or even exercises for maintaining muscle mass to prevent atrophy –not simply the act of building mass and/or strength. One could even go so far as to consider the act of rest itself to be a necessary component for muscle repair and thus building. The intended use of developing strength in the claim preamble was considered, but deemed insufficient to saliently distinguish over prior art that performs the recited steps in the method and is at least capable of developing or assisting in the development of muscle strength. Further, the reference to developing strength in the preamble could just as well apply to the inherent result of performing the actual exercise itself and not even relate to the signal later set forth.

Secondly, even if one were to read the limitation of building muscle into the claim, a method that applies a stimulating signal to relax the muscle and relieve muscle cramps while the instrument is in motion, is inherently assisting in the development and building of muscle. It is well-known that a muscle that is cramped will not develop as effectively and efficiently as a muscle that is relaxed because a cramped muscle will not contract and relax to its full range as required to build the muscle since it is under a state of constant tension. Periods of relaxation are just as necessary as periods of contraction when building and strengthening muscle. Stretching exercises further have long been medically accepted to loosen up and relax muscle and are commonly performed as a part of a regular exercise routine to prevent injury and gain maximum benefit from the routine. Furthermore, by relieving cramps and relaxing muscle, one is

more apt to continue the exercise. A person that is in pain due to overuse or other muscle-related tension causes, will likely stop exercising to avoid discomfort.

By relaxing muscle and relieving muscle cramps during exercise as taught by Guasco, one is therefore inherently promoting the development of muscle and muscle strength by application of the muscle stimulating signal.

The rejection of claim 6 stands or falls with the rejection of claim 1 with all arguments presented above applying here as well.

Regarding claim 8, the appellant repeats the arguments already discussed above (i.e., that the signal of Guasco does not build muscle but merely relaxes or rests the muscle). Concomitantly, the examiner repeats the above line of reasoning.

Regarding claims 9, 10 and 12-14, the appellant argues that the claim is allowable by virtue of its dependence upon claim 8. The examiner thus repeats the arguments made above in the rejection of claim 8 since the limitations introduced by claims 9, 10 and 12-14 are clearly and explicitly disclosed by Guasco.

Regarding the rejection of claim 12, the appellants further assert that the cited reference makes no mention of any of the instruments included in this claim. Clearly this assertion is incorrect since the Guasco reference is directed to a writing instrument (see Fig. 1). Claim 12 does not require that all of the recited instruments be found in the applied reference.

Regarding the rejection of claim 14, the appellants assert that there is no teaching in the prior art relating to the use of a button, a switch, a motion sensor, a voice sensor and a dial. The examiner disagrees. Guasco explicitly refers to the use of

a switch on lines 90-93. The examiner is under no obligation to find all of the recited elements in the appellants' list.

Regarding the rejection of claims 8, 11 and 14 under 35 U.S.C. 102(b) as being anticipated by Mills, the appellants argue that combining electronic muscle stimulation with the act of practicing a movement has an unexpected, synergistic effect of training the muscle as it builds strength. It is argued that Mills does not teach a stimulating signal configured to stimulate muscle growth. Mills is argued to merely use vibrations to alert the user swinging a club if their grip is incorrect. It is further argued that Mills does not teach applying an electrical signal configured to develop muscle while a club is in motion.

The examiner counters that no where in apparatus claim 8 is there a requirement that the signal be an electrical one. Claim 8 merely requires a stimulating signal for transcutaneous delivery to the muscle. A vibratory signal applied through a grip is clearly a stimulating signal applied transcutaneously to the muscle.

Regarding the assertion that the signal of Mills does not stimulate muscle *growth*, once again the examiner argues that the appellant is reading limitations into the claims. The claim merely requires that a stimulator produce a signal with the intended use of developing muscle while the instrument is in motion. The examiner repeats the arguments made above in the interpretation of what it means to "develop muscle." Specifically addressing the Mills reference, the mere act of providing a vibrating grip *during the swing* (see col. 2, lines 41-45) inherently acts to develop muscle. One must enlist muscle in order to grip a vibrating club to counter the various forces at play or risk

losing one's grip. One can also argue that by teaching one the proper grip during a swing, the stimulator signal intrinsically helps to develop muscle by being an overall part of the exercise system. One can also argue that the way a person grips the club necessarily affects the types of muscles enlisted and the contributions of each muscle to the swing. A proper grip may, for example, result in a posture that favors particular muscles over those enlisted in an improper grip –thus enabling one to more strongly swing the club for better driving distance. A proper grip may, for example, cause a more complete rotation of the wrist or torso, thus maximizing the force of the swing and developing the proper swing muscles as opposed an improper grip that may enlist muscles that may counter or lessen the effectiveness of the swing.

Regarding the appellants' assertion that the prior art in general fails to recognize the synergistic effect of training the muscles as it builds strength, the examiner refers to the Poulton reference which explicitly states in col. 17, lines 42-58 that providing muscle stimulation assists the user to exercise at a speed or exertion level above that normally experienced (i.e., above that experienced without said stimulation). Those of ordinary skill and reason in the art would therefore recognize the added benefits contingent with combining exercise with muscle stimulation. Further, the appellant does not limit the signal to any specific form. Thus any signal that is capable of assisting muscle development while the instrument is in motion would necessarily read on the claim limitation. The prior art does not have to explicitly recognize any synergistic effect as long as the limitations of the claim are disclosed, inherent or suggested.

Regarding the rejection of claims 11 and 14, the appellant relies upon the dependence of said claims on claim 8. The arguments above referenced to claim 8 apply here as well.

Regarding claim 12, the appellants argue that Mills does not mention any of the instruments included in this claim. While this assertion is incorrect (see col. 1, lines 36-40 and lines 55-63), upon further reflection, the examiner concedes that Mills does not explicitly incorporate an embodiment showing one of the recited instruments and has thus withdrawn this claim from the Mills rejection statement as indicated above. While an obvious argument could be made, such a rejection is considered unnecessary since claim 12 has already been rejected as anticipated by Guasco.

Regarding the appellants' assertion that Mills does not disclose the limitations of claim 14, note col. 2, lines 36-45 and its reference to a switch.

Regarding the rejection of claims 1-5 under 35 U.S.C. 103 as being obvious in view of Poulton, the appellants argue that Poulton does not teach a signal configured to build muscle. It is stated that the signals produced by Poulton do not themselves build muscle, but only encourage a user to exercise and build muscle by making a virtual reality environment seem more real. It is also stated that while the examiner's assertion that the simulation provided by the signals of Poulton enhance exercise, it is not what is being claimed. It is argued that the claimed signal develops muscle in addition and in complement to any muscle that is inherently developed by virtue of the user manipulating the device.

The examiner responds once again that claim 1 does not require a signal that builds muscle, but rather a signal that develops muscle. The reference to developing strength in the claim preamble could just as well refer to the actual act of performing the exercise itself (e.g., bicycling, arm wrestling, martial arts, etc.) which clearly and unequivocally develops muscle strength. Nothing in the claim requires the signal itself to develop muscle strength. All of the previous arguments made by the examiner in relation to this point apply here as well. In addition, all of the previous arguments with respect to the inherent aspect of muscle building with the application of the signal apply here as well. In the case of Poulton specifically, the application of electromuscular signals to stimulate muscle in order to create the illusion that the user is actually experiencing, for example, a karate kick or a squeezed hand, inherently requires the muscle to contract and/or counter any perceived force. If the signal were insufficient to influence muscle reaction, the virtual reality experience would be ineffective. Col. 14, lines 1-6, for example, explicitly refers to the use of the electromuscular actuator for applying a voltage signal directly to the muscle to *cause a natural contraction*. Clearly a signal that contracts muscle is a signal that in the very least develops muscle. The mere fact that the electromuscular stimulation signal encourages a user to exercise harder/faster/longer by making the virtual reality environment seem more real (see for example col. 17, lines 42-58 of Poulton) shows that the signal contributes to muscle development and/or muscle building. The examiner is not limited to specific embodiments disclosed or to any specific signal construction, but may draw from any method that applies a signal that contributes in some way to muscle development.

Regarding the rejection of claims 2-5, the appellants argue that because Poulton does not explicitly “suggest” the particular instrument, the claim is allowable (in addition it is stated that since claim 1 is allegedly allowable, claims 2-5 necessarily are allowable).

As stated in the Final Rejection and repeated above, the examiner has presented specific arguments as to why the inclusion of such instruments would be considered obvious by those of ordinary skill and reason in the art. The appellants have not addressed this reasoning. Clearly those of ordinary skill and common sense in the art would have considered the system of Poulton to be applicable to a wide variety of sporting instruments and not limited to the examples explicitly discussed by Poulton. There is no reason to believe that virtual golf, tennis, baseball or hockey would be any less desirable to emulate than the specific sports discussed by Poulton, nor have the appellants established that such common sports and associated activities would be particularly difficult to implement with the system and general teachings of Poulton.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.